

ABSTRACT

Data conversion/output devices having a large number of sensors and voltage-time conversion circuits. The voltage-time conversion circuits change output levels upon the lapse of time corresponding to output voltage values from the sensors in order to convert voltage output of the sensors into time. The data conversion/output and sensed data generation circuits output, as digital data, lapse times. Signals propagating a long distance from each pixel on a data bus are therefore converted into digital signals, which prevents degradation from noise.